

This listing of claims will replace all prior versions and listings of claims in the subject application.

Listing of Claims:

Claim 1. (Previously Presented) A sealing arrangement consisting essentially of a sealing ring having a generally triangular or trapezoidal cross-section and two components moving relative to each other, said components having a first gap width therebetween, including a radially internal or external sealing surface that can be brought into flat area contact with at least one of said components to form a seal against a fluid medium, where, to one side of said sealing surface, said sealing ring displays a pressurizing surface to be pressurized by said fluid medium and, on the opposite side, a supporting surface for positioning against a supporting flank of the component accommodating the sealing ring,

wherein one of said two components displays a groove without an undercut to receive said sealing ring, where said groove displays said supporting flank opposite said supporting surface of said sealing ring, and a pressure-side flank opposite said pressurizing surface of said sealing ring, where said sealing surface of said sealing ring projects from said groove in the radial direction, and wherein said sealing ring has a central longitudinal axis;

wherein a second gap width is provided, at least between said pressurizing surface of the sealing ring and said pressure-side flank, into which said fluid medium to be provided on the pressure side of said sealing ring can flow, pressing said sealing ring in sealing fashion against said supporting flank of said groove and against one of said two components, and, by application of pressure by said fluid medium, said supporting surface of said sealing ring over the height and circumference of the sealing ring is brought into flat area contact with said supporting flank of said groove, wherein said supporting surface of said sealing ring as well as said supporting flank of said groove have an inclination angle of 30° to 60° towards said sealing surface,

wherein said supporting surface is designed as a lateral surface of a truncated cone, resulting in flat contact with said supporting flank of said groove,

wherein said second gap extends over the entire lateral extension of said sealing ring,

wherein said sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference, forming a weaker area,

wherein said sealing ring is radially compressed outwards towards said radially internal sealing surface, or radially compressed inwards towards said radially external sealing surface,

wherein said sealing surface is in flat area sealing contact with one of said two components to form a seal when said sealing ring is pressurized, and

wherein said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove in any expansion or compression state of the sealing ring due to pressure changes of said fluid medium.

Claim 2. (Cancelled)

Claim 3. (Cancelled)

Claim 4. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that the area of said pressurizing surface or said supporting surface, or of said pressurizing surface and said supporting surface, with the form of a truncated cone follows on laterally, at least almost directly, from said sealing surface.

Claim 5. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that a surface is located between said pressurizing surface and said supporting surface, opposite to said sealing surface, which is a lateral surface of a truncated cone, or a surface of a cylinder, or a concavely arched surface forming a transitional area.

Claim 6. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that the radial thickness of said sealing ring is less than/equal to the extension of said sealing surface in the axial direction of said sealing ring.

Claim 7. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said pressurizing surface or said supporting surface, or said ~~the~~ pressurizing surface and said supporting surface, is or are profiled.

Claim 8. (Cancelled)

Claim 9. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said weaker area is designed as a complete division of said sealing ring, forming two opposite sealing ring ends, in that at least one, integrally molded area extending in the circumferential direction of said sealing ring is provided on each of said sealing ring ends, and in that the areas associated with different sealing ring ends are located one behind the other in said axial direction of said sealing ring, forming a labyrinth seal, and are in contact with each other, at least in operating condition of said sealing ring.

Claim 10. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said sealing ring consists of a plastic with an elongation at break at room temperature of $\leq 50\%$.

Claim 11. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said sealing surface is partly or entirely arranged concentrically to said central longitudinal axis of said sealing ring, and is designed as the surface of a cylinder that can be a radially external or internal boundary surface of said ring.

Claim 12-13. (Cancelled)

Claim 14. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said second gap extends at least partially over the side of said sealing ring opposite said sealing surface of said sealing ring, which forms a transitional area between said supporting surface and said pressurizing surface.

Claim 15. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said sealing ring projects from said groove in said component in the radial direction by less than one-third of its radial thickness.

Claim 16. (Cancelled)

Claim 17. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said second gap displays an essentially constant gap width over its radial extension.

Claim 18. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said groove is of rounded design in the area of the groove base, or in at least one transitional area to an adjacent groove flank.

Claim 19. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that a first of said two components is provided, which displays said sealing ring accommodated in a circumferential groove, and in that a second of said two components is provided, which moves relative to said first of said two components and with which said sealing surface of said sealing ring can be brought into contact in sealing fashion during motion of said two components relative to each other, and in that said sealing ring is located in said groove without pretension in relation to the component to be sealed.

Claim 20. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said component accommodating said sealing ring in said groove is a shaft, and in that a shaft guide is provided, with which said sealing surface of said sealing ring can be brought into contact in sealing fashion by application of the pressure of said fluid medium during rotary motion of said shaft and said shaft guide relative to each other, in that said shaft guide is made of a light metal, and in that said supporting surface of said sealing ring is inclined to said longitudinal axis of said sealing ring such that,

owing to the pressure force of said fluid medium on said sealing ring, said sealing ring is located in non-rotating fashion relative to said shaft guide.

Claim 21. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said component accommodating said sealing ring is a shaft guide, and in that a shaft which rotates relative to it is provided, with which said sealing surface of said sealing ring can be brought into contact in sealing fashion.

Claim 22. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said two components comprise a shaft and a shaft guide.

Claim 23. (Previously Presented) The sealing arrangement according to Claim 1, characterized in that said two components comprise a cylinder and a piston.

Claim 24. (Cancelled).

Claim 25. (Previously Presented) A sealing arrangement comprising a sealing ring having a generally triangular or trapezoidal cross-section and two components moving relative to each other, said components having a first gap width therebetween, including a radially internal or external sealing surface that can be brought into flat area contact with one of said components to form a seal against a fluid medium, where, to one side of said sealing surface, said sealing ring displays a pressurizing surface to be pressurized by said fluid medium and, on the opposite side, a supporting surface for positioning against a groove flank of one of the two components accommodating said sealing ring, wherein said pressurizing surface and said supporting surface are inclined relative to said sealing surface and enclose an angle of about 30° to 60° towards said sealing surface, and wherein said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove in any expansion or compression state of the sealing ring due to pressure changes of said fluid medium,

wherein said supporting surface is designed as a lateral surface of a truncated cone, resulting in flat area contact with said supporting flank of said groove,

wherein the sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference, forming a weaker area,

wherein said sealing ring is radially compressed outwards towards said radially internal sealing surface, or radially compressed inwards towards said radially external sealing surface,

wherein one of said two components displays a groove without undercut to accommodate said sealing ring, where said groove displays a supporting flank opposite said supporting surface of said sealing ring, and a pressure-side flank opposite said pressurizing surface of said sealing ring, where said sealing surface of said sealing ring projects from said groove in the radial direction,

wherein a second gap width is provided, at least between said pressurizing surface of said sealing ring and said pressure-side flank, into which said fluid medium to be provided on the pressure side of said sealing ring can flow, pressing said sealing ring in sealing fashion against said supporting flank of said groove and against a component to be sealed that corresponds to a first component, and, by application of pressure by said fluid medium, said supporting surface of said sealing ring over the height and circumference of the sealing ring is brought into flat area contact with said supporting flank of said groove, at least on the side facing said sealing surface, and wherein said second gap width extends over the entire lateral extension of said sealing ring,

wherein said second gap width extends over the entire lateral extension of the sealing ring; and

wherein said sealing surface being in sealing contact with one of said two components provides a flat sealing area and wherein said flat sealing area is provided when said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove.

Claim 26.(Previously Presented) A sealing arrangement comprising a sealing ring having a generally triangular or trapezoidal cross-section and two components moving relative to each other, said components having a first gap width therebetween, including a radially internal or external sealing surface that can be brought into contact with one of said components to form a seal against a fluid medium, where, to one side of said sealing

surface, said sealing ring displays a pressurizing surface to be pressurized by said fluid medium and, on the opposite side, a supporting surface for positioning against a groove flank of one of said two components accommodating said sealing ring,

wherein said pressurizing surface and said supporting surface are inclined relative to said sealing surface and enclose an angle of less than 90° towards said sealing surface,

wherein said sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference, forming a weaker area,

wherein said sealing ring is radially compressed outwards towards said radially internal sealing surface, or radially compressed inwards towards said radially external sealing surface,

wherein one of said two components displays a groove without undercut to accommodate said sealing ring, where said groove displays a supporting flank opposite said supporting surface of said sealing ring, and a pressure-side flank opposite said pressurizing surface of said sealing ring, where said sealing surface of said sealing ring projects from the said groove in the radial direction,

wherein a second gap width is provided at least between said pressurizing surface of said sealing ring and said pressure-side flank, into which said fluid medium to be provided on said pressure side of said sealing ring can flow, pressing said sealing ring in sealing fashion against said supporting flank of said groove and against one of said two components to be sealed that corresponds to the first component, and, by application of pressure by said fluid medium, said supporting surface of said sealing ring over the height and circumference of the sealing ring is brought into flat area contact with said supporting flank of said groove, at least on the side facing said sealing surface,

wherein said groove is of concave rounded design in the central area of the groove base and in both transitional areas to both adjacent groove flanks, with a continuous transition of the concave groove base to said groove flanks, and

wherein said transitional area of said sealing ring is arranged at said base of said groove,

wherein said supporting surface of said sealing ring as well as said supporting flank of said groove have an inclination angle of 30° to 60° towards said sealing surface,

wherein said supporting surface is designed as a lateral surface of a truncated cone, wherein said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove in any expansion or compression state of the sealing ring due to pressure changes of said fluid medium, resulting in flat area contact with said supporting flank of said groove, and

wherein said second gap width extends over the entire lateral extension of said sealing ring, and

wherein said sealing surface being in sealing contact with one of said two components provides a flat sealing area and wherein said flat sealing area is provided when said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove..

Claim 27. (Previously Presented) A sealing arrangement comprising a sealing ring having a generally triangular or trapezoidal cross-section and two components moving relative to each other, said components having a first gap width therebetween, including a radially internal or external sealing surface that can be brought into flat area contact with one of said components to form a seal against a fluid medium, where, to one side of said sealing surface, said sealing ring displays a pressurizing surface to be pressurized by said fluid medium and, on the opposite side, a supporting surface for positioning against a groove flank of one of said two components accommodating said sealing ring, wherein said pressurizing surface and said supporting surface are inclined relative to said sealing surface and enclose an angle of about 30° to 60° towards said sealing surface,

wherein said supporting surface is designed as a lateral surface of a truncated cone, wherein said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove in any expansion or compression state of the sealing ring due to pressure changes of said fluid medium resulting in flat area contact with said supporting flank of said groove,

wherein said sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference, forming a weaker area,

wherein said sealing ring is radially compressed outwards towards a said radially internal sealing surface, or radially compressed inwards towards said radially external sealing surface,

wherein one of said two components displays a groove without undercut to accommodate said sealing ring, where said groove displays a supporting flank opposite said supporting surface of said sealing ring, and a pressure-side flank opposite said pressurizing surface of said sealing ring, and a base, where said sealing surface of said sealing ring projects from said groove in the radial direction,

wherein a second gap width is provided, at least between said pressurizing surface of said sealing ring and said pressure-side flank, into which said fluid medium to be provided on said pressure side of said sealing ring can flow, pressing said sealing ring in sealing fashion against said supporting flank of said groove and against a component to be sealed that corresponds to a first component, and, by application of pressure by said fluid medium, said supporting surface of said sealing ring over the height and circumference of the sealing ring is brought into flat area contact with said supporting flank of said groove,

wherein the second gap width extends over the entire lateral extension of the sealing ring, and

said sealing arrangement is further characterized in that said supporting surface, forms a lateral surface and said lateral surface extends from said base of said groove up to the area of said sealing ring projecting from said groove and into said first gap width between said components, wherein said lateral surface is in flat area contact with said supporting flank of said groove when the sealing ring is pressurized when said sealing surface of said sealing ring is in flat area contact with said component;

wherein said sealing surface of said sealing ring is the surface with the greatest width referring to the cross-sectional view of said sealing ring;

wherein said flat area sealing surface of said sealing ring in the pressurized sealing position of said sealing ring is in flat area contact with the opposite component, and

wherein said sealing surface being in sealing contact with one of said two components provides a flat sealing area and wherein said flat sealing area is provided

when said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove.

Claim 28. (Previously Presented) A sealing arrangement consisting essentially of a sealing ring having a generally triangular or trapezoidal cross-section and two components moving relative to each other, said components having a first gap width therebetween, including a radially internal or external sealing surface that can be brought into flat area contact with at least one of said components to form a seal against a fluid medium, where, to one side of said sealing surface, said sealing ring displays a pressurizing surface to be pressurized by said fluid medium and, on the opposite side, a supporting surface for positioning against a supporting flank of the component accommodating the sealing ring,

wherein one of said two components displays a groove without an undercut to receive said sealing ring, where said groove displays said supporting flank opposite said supporting surface of said sealing ring, and a pressure-side flank opposite said pressurizing surface of said sealing ring, where said sealing surface of said sealing ring projects from said groove in the radial direction, and wherein said sealing ring has a central longitudinal axis;

wherein a second gap width is provided, at least between said pressurizing surface of the sealing ring and said pressure-side flank, into which said fluid medium to be provided on the pressure side of said sealing ring can flow, pressing said sealing ring in sealing fashion against said supporting flank of said groove and against one of said two components, and, by application of pressure by said fluid medium, said supporting surface of said sealing ring over the height and circumference of the sealing ring is brought into flat area contact with said supporting flank of said groove, wherein said supporting surface of said sealing ring as well as said supporting flank of said groove have an inclination angle of 30° to 60° towards said sealing surface, and where the cross-sectional contour of the supporting flank of the groove corresponds to the cross-sectional contour of said supporting surface of said sealing ring when said sealing surface of said sealing ring is in flat area sealing contact with said sealing surface of said component;

wherein said supporting surface is designed as a lateral surface of a truncated cone, and wherein said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove in any expansion or compression state of the sealing ring due to pressure changes of said fluid medium_resulting in flat contact with said supporting flank of said groove,

wherein said second gap extends over the entire lateral extension of said sealing ring,

wherein said sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference, forming a weaker area,

wherein said sealing ring is radially compressed outwards towards said radially internal sealing surface, or radially compressed inwards towards said radially external sealing surface,

wherein said sealing surface being in sealing contact with one of said two components provides a flat sealing area and wherein said flat sealing area is provided when said supporting surface of said sealing ring is in flat area contact with said supporting flank of said groove, and

wherein said component accommodating said sealing ring in said groove is a shaft, in that a shaft guide is provided, with which said sealing surface of said sealing ring is brought into contact in sealing fashion by application of the pressure of said fluid medium during rotary motion of said shaft and said shaft guide relative to each other, in that said shaft guide is made of a light metal, and in that said supporting surface of said sealing ring is inclined to said longitudinal axis of said sealing ring such that, owing to the pressure force of said sealing medium on said sealing ring, said sealing ring is located in non-rotating fashion relative to said shaft guide.